cSAXS – The new Coherent Small-Angle X-Ray Scattering Beamline at the Swiss Light Source

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cSAXS is the new state-of-the-art facility at the Swiss Light Source (SLS) for small-angle x-ray scattering (SAXS), coherent diffraction imaging (CDI), and x-ray photon correlation spectroscopy (XPCS), among other techniques. We present the general layout and specifications, as well as first beamline characterization results.

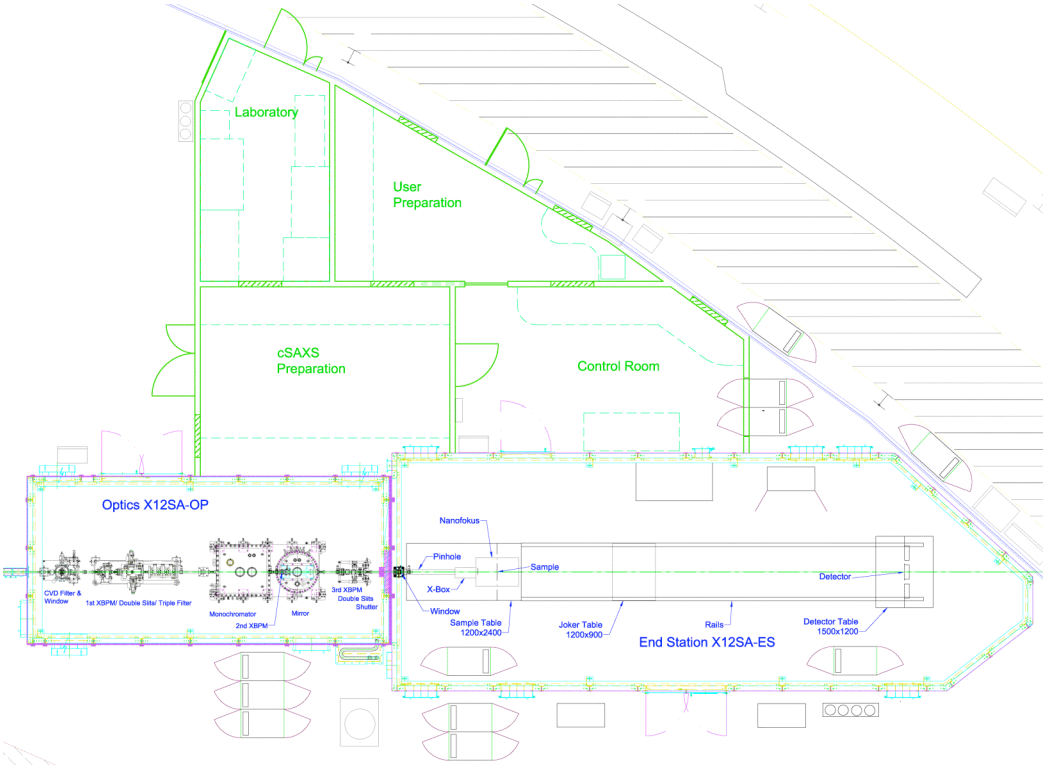

Figure 1: Overview of the layout of cSAXS (X12SA) at the Swiss Light Source.

Among the most salient tools at cSAXS is the PILATUS II detector, a PSI-developed two-dimensional hybrid pixel array detector[1] operating in single-photon counting mode. We will discuss some of its unique features, which include no readout noise, maximal count rate ~1MHz/pixel, framing rate up to 100Hz, dynamic range of 20bit, and no point spread beyond single pixels.

The pilot phase of user operation at cSAXS begins July 2007. Normal user operation is scheduled to commence beginning 2008.

[1]C. Brönnimann *et al.*, J. Synchrotron Rad. **13** (2006) 120, *The Pilatus 1M Detector*.